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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,673	08/21/2003	Kevin L. Beaman	108298715US	1020
25096	7590	05/13/2005	EXAMINER	
PERKINS COIE LLP			TUROCY, DAVID P	
PATENT-SEA			ART UNIT	
P.O. BOX 1247			PAPER NUMBER	
SEATTLE, WA 98111-1247			1762	

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/646,673

Applicant(s)

BEAMAN ET AL.

Examiner

David Turocy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-11 is/are allowed.
- 6) ☒ Claim(s) 12, 13 and 16-21 is/are rejected.
- 7) ☒ Claim(s) 14-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/17/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. The applicant's amendments, filed 3/17/2005, have been fully considered and reviewed by the examiner. The examiner notes the amendment to claim 5 to include all the limitations of independent claim 1. The examiner notes the amendments to claims 2-4 and 6-11 to now depend from claim 5. Claims 1 and 22-27 are cancelled. Claims 2-21 are pending.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 3/17/2005 was filed after the mailing date of the non-final rejection on 12/16/2004. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Response to Arguments***

3. The applicant argues against the Park reference stating that Park fails to disclose depositing a first reaction product on a surface of the reaction chamber and depositing a second reaction product on the surface of the substrate at a second lower rate. The examiner agrees that Park discloses that the precoating process is *similar* to the thin film deposition except that the wafer is in the reactor, however, this disclosure of "similar" does not support the two processes always having the "same" operating

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conditions. Park continues to disclose the similarities associated with the two processes include the temperature of the wafer and/or the supply lines (paragraph 0095). Park discloses one method for the precoating process is continuously flowing ammonia and one method for wafer coating step is pulsing the ammonia (paragraphs 65-67 and 94). Therefore Park reasonably suggests to one of ordinary skill in the art that the method includes first continuously flowing ammonia in the precoating step and then subsequently pulsing the ammonia to form a thin film, where the preceding method inherently results in the precoating having a higher deposition rate as discussed in the office action date December 16, 2004.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 12-13 and 16-21 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent Publication 2002/007790 by Park.

The claims are rejected for the same reasons set forth in the 35 USC 102(b) rejection in the office action dated December 16, 2004 and for the reasons set forth above.

***Allowable Subject Matter***

5. Claims 2-11 are allowed.
6. Claims 14 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. The following is a statement of reasons for the indication of allowable subject matter: None of the prior art cited or reviewed by the examiner discloses pretreating the surface of the process chamber by *first depositing a layer comprising polysilicon* and thereafter introducing a *first precursor comprising titanium and a second precursor comprising nitrogen to deposit a second pretreatment material* on the surface of the process chamber.

The closest prior art cited or reviewed by the examiner is WO 01/46490 by Lam Research Corporation and WO 02/095807 by Zehavi et al., cited on the IDS filed 3/17/2005. WO 01/46490 discloses applying a polymer to the walls of the reaction chamber and then subsequently processing the substrate within the chamber (Page 3, lines 12-15). WO 01/46490 discloses the polymer coating is an organic film, which contains deposition by products. WO 02/095807 discloses applying a polysilicon coating layer onto the reaction chamber walls prior to wafer processing. Neither WO 01/46490 or WO 02/095807, while coating the reaction chamber with a polymer material, reasonably suggest to one of ordinary skill in the art to provide a second coating, deposited from titanium and nitrogen comprising precursors, over the polymer layer prior to wafer processing.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

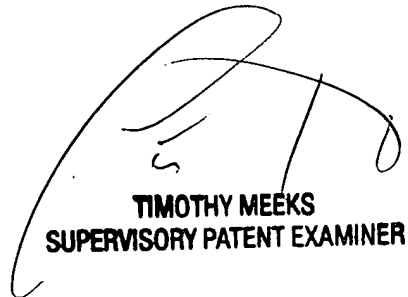
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Turocy whose telephone number is (571) 272-2940. The examiner can normally be reached on Monday-Friday 8:30-6:00, No 2nd Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Turocy  
AU 1762



**TIMOTHY MEEKS**  
**SUPERVISORY PATENT EXAMINER**